

AMENDMENT UNDER 37 C.F.R. § 1.116  
U.S. APPLN. NO. 09/914,650

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently Amended) A method for manufacturing bleached mechanical and chemithermomechanical pulp wherein lignocellulose material, preferably wood in chip form, is caused to pass through at least one preheater or through a chemical treatment system, and a steam separator, and then through ~~at least one refiner, each refiner followed by steam separation and being in series where there is more than one refiner a single refining stage containing at least one refiner with each refiner in the single refining stage being directly followed by steam separation and with only steam separation existing between refiners,~~ in which the lignocellulose material is converted to a pulp suspension which, subsequent to the most downstream of said steam separation, is passed at least to one storage vessel (~~flatney chest~~) and to a screening department from which the major part of the pulp suspension is taken out as an essentially finished product or is taken out and passed to further treatment stages and in which reductive bleaching agent as the only bleaching agent is added to the advancing pulp suspension without the use of a bleaching tower or like means, wherein the improvement comprises adding the bleaching agent at a location downstream of the most downstream refiner and upstream of the screening department; and bleaching said pulp under the given drastic condition from the aspect of temperature and the given minimized oxygen access at said location and immediately downstream of said location.

AMENDMENT UNDER 37 C.F.R. § 1.116  
U.S. APPLN. NO. 09/914,650

2. (original): A method according to claim 1, characterized by adding complexing agent to the lignocellulose material upstream of and/or in said refiner.
3. (previously presented): A method according to claim 1, characterized by passing the pulp suspension to two refiners in series.
4. (original): A method according to Claim 3 characterized by adding complexing agent to the pulp suspension immediately upstream of and/or in said second refiner.
5. (previously presented): A method according to claim 1, characterized by also passing the pulp suspension to a slusher (latency pulper) located immediately upstream of the storage vessel (the latency chest).
6. (original): A method according to Claim 5, characterized by adding the bleaching agent to the pulp suspension in a pump located in connection with the slusher, said pump being caused to transport the pulp suspension to the storage vessel in a pipe.
7. (previously presented): A method according to claim 1, characterized by causing reject pulp suspension from the screening department to pass through a refiner and thereafter through a slusher whereafter said reject pulp suspension is finally fed into the main pulp suspension flow, preferably upstream of and in connection with the storage vessel (the latency chest) or in the storage vessel (the latency chest).
8. (original): A method according to Claim 7, characterized by adding bleaching agent to the reject pulp suspension at a location downstream of the refiner in that circuit and prior to introducing the reject pulp suspension into the main pulp suspension flow.

AMENDMENT UNDER 37 C.F.R. § 1.116  
U.S. APPLN. NO. 09/914,650

9. (original): A method according to Claim 8 characterized in that the bleaching agent is a reducing bleaching agent.

10. (previously presented): A method according to claim 8, characterized by adding the bleaching agent to the reject pulp suspension in a pump located in connection with the slusher in this circuit.

11. (currently amended): A method according to claim 1, characterized in that the temperature of the pulp suspension is very high from a bleaching aspect, ~~preferably 80-90°C,~~ at the location at which the bleaching agent is added and immediately downstream of said location and in that the solid content or concentration is low, ~~preferably 2-4%,~~ at said location.

12. (currently amended): A method according to claim 1, characterized in that the bleaching agent is a dithionite, for instance sodium dithionite =  $\text{Na}_2\text{S}_2\text{O}_4$ .